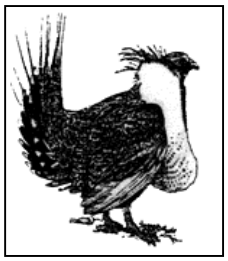
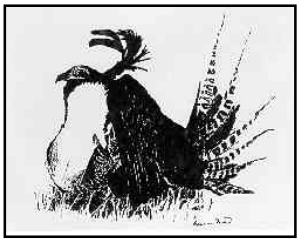


Community-Based Conservation Programs in Utah
State of Utah Contract # 011530



Annual Status Report

April 2001- July 2002

Submitted to

Utah Division of Wildlife Resources
Utah State University Extension
Utah State University College of Natural Resources

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Executive Summary

This report summarizes the activities conducted in 2001-2002 under State of Utah Contract Number 011531 "Implementation of a Community-based Conservation Extension Program (CCES)." The purpose of the contract is to facilitate sage-grouse conservation planning efforts in Utah. We also provide recommendations and guidelines for expanding the CCES to better serve the needs of the citizens of Utah and enhance sage-grouse conservation.

Introduction

Sage-grouse (*Centrocercus spp*.) are restricted to the sagebrush rangelands of Western North America. Both the distribution and abundance of sage-grouse have dramatically declined. Sage-grouse once inhabited 15 states and 3 Canadian provinces. Currently, populations exist in only 10 states and 1 province.

In Utah, sage-grouse inhabit sagebrush habitats of the Colorado plateau and the Great Basin geographic regions between 4,000 to 9,000 feet elevations. The largest populations of sage-grouse are found in Rich County, the Park Valley area of Box Elder County, on the Diamond and Blue Mountains in Uintah County, and on the Parker Mountain in Wayne County. Other smaller populations are scattered in central and southern parts of the state. The Utah Division of Wildlife Resources (UDWR) believes that all of Utah's 29 counties at one time provided sagebrush habitat suitable for sage-grouse. Pioneer journals indicate that sage-grouse were abundant throughout Utah in the early 1800s.

As of July, 2000, there are two recognized species of sage-grouse in Utah. All birds located North and West of the Colorado River are known as the Greater sage-grouse (*C. urophasianus*). A newly described species, the Gunnison sage-grouse, (*C. minimus*) is found only in San Juan County in Southeastern Utah (South and East of the Colorado River).

The UDWR estimates that sage-grouse in Utah currently occupy only 50 percent of their previous habitat and are one-half as abundant as they were prior to the 1850s. In 1996, UDWR biologists counted 126 sage-grouse leks. An average of 10 males were counted per lek. This is down 51% from long-term averages. These declines have been largely attributed to land use practices that reduced, eliminated, or fragmented suitable sagebrush habitats. Additionally changes in the dynamics of predator populations also may be impacting local populations.

Reasons for concern

These population declines have prompted several environmental organizations to petition the U.S. Fish and Wildlife Service (USFWS) to list the sage-grouse as endangered under the federal Endangered Species Act. As of September 9, 2002, six petitions have been filed with the USFWS to list sage-grouse as an endangered or threatened species (Table 1). Three of these petitions directly affect Utah.

Prior to these petitions, concerned stakeholders in the affected states have formed working groups to increase local ownership and involvement in the development of community-based sage-grouse conservation plans. They believe that implementation of these conservation plans and agreements will

assist state and local governments and private landowners in conserving these species and their habitats while also achieving local, social, and economic objectives.

What is being done?

In Utah, a Statewide Sage-grouse Working Group was formed in 1998 to identify management issues and concerns and serve as a network for disseminating information needed to complete sage-grouse conservation plan. Three local working groups also were formed specifically to address local sage-grouse conservation issues. These working groups are: 1) The Parker Mountain Adaptive Resource Management Working Group (PARM) started in 1997; 2) The Strawberry Reservoir Valley Working Group started in 1997; and 3) The San Juan County Gunnison Sage-grouse Working Group (SWOG) started in 1996.

These local working group efforts have been successful in increasing state and local awareness of, and support for, implementing sage-grouse conservation plans designed to benefit the species and the affected communities. Given the continued decline of sage-grouse populations, and the increased interest of state and local governments and private citizens in becoming involved in species conservation planning, there was a need to facilitate similar processes in other parts of Utah.

Species conservation planning efforts are time consuming. They require constant communication and commitment on the part of local working group members. The success of the groups is directly related to the involvement of local leaders and the presence of an administrative structure. In essence someone or some entity has to provide the leadership necessary to bring together diverse stakeholders to discuss the issues. This leadership is essential to facilitate a process that allows the group identify issues; concerns and management strategies; to build group consensus; to schedule and organize meetings; to prepare and distribute meeting minutes; to write drafts of local conservation plan and agreements; and to help implement and monitor management strategies identified in the documents.

Creation of a Community-based Conservation Extension Program

UDWR personnel, because of increasing workloads and reduced staffing, may lack the time needed to establish and facilitate local working groups. Although UDWR personnel must be involved as members of local working groups, their involvement in leadership roles could be perceived by other local working group members as somewhat being counterproductive because of their regulatory authority. This perception is not necessarily held about specific individuals, but more so governmental agencies in general. Given these perceptions, it will continue to be difficult for government agency representatives to be assume leadership roles in species conservation working groups. Thus, UDWR administrators believe that the establishment and facilitation of local species conservation working groups may best be achieved through the creation of a independent program solely dedicated to this effort.

In January 2001, Utah State University Extension and the College of Natural Resources entered into a cooperative agreement with the UDWR to develop a Community-based Conservation Extension Program (CCES). The funding to support the salary for the position is currently being provided by the Jack H. Berryman Institute. The UDWR provides travel and operational support.

Table 1. Status of sage-grouse petition submitted to the USFWS (September 9, 2002)

1. Petition Date: May 14, 1999 (74 pp)

Species: Washington population of the Western Sage-grouse
Centrocircus urophasianus phaios

Petition Request: List as threatened or endangered
Petitioners: Northwest Ecosystem Alliance and Biodiversity Legal Foundation
USFWS Determination: Petition presents substantial information and listing is warranted but precluded.

2.Petition Date: January 25, 2000 (254 pp)

Species: Gunnison Sage-grouse
Centrocercus minimus

Petition Request: List as endangered or threatened, emergency listing, and designation of critical habitat
Petitioners: American Lands Alliance, Net Work Associates, The Larch Company, Biodiversity Legal Fund, Wild Utah Forest Campaign, and Sinapu
USFWS Determination: Species designated as candidate (sufficient information that may warrant listing) prior to receipt of petition

3. Petition Date:December 28, 2001 (493 pp)

Species: Mono Basin population of the Greater Sage-grouse
Centrocircus urophasianus phaios

Petition Request: Emergency list as endangered
Petitioner: Institute for Wildlife Protection
USFWS Determination: Initial review: does not warrant emergency listing; 90-day finding still pending; finding will be published in the Federal Register this fall

4. Petition Date: January 24, 2002 (468 pp)

Species: Western Subspecies of the Greater Sage-grouse
Centrocircus urophasianus phaios

Petition Request: List the subspecies
Petitioner: Institute for Wildlife Protection
USFWS Determination: Insufficient funds to initiate 90-day finding until FY 2003

5. Petition Date: June 18, 2002
Species: Greater Sage-grouse

Centrocircus urophasianus

Petition Request: List as endangered
Petitioner: Craig Dremann
USFWS Determination: Insufficient funds to initiate 90-day finding until FY 2003

6. Petition Date: July 3, 2002 (524 pp)

Species: Eastern subspecies of the Greater Sage-grouse
Centrocircus urophasianus urophasianus

Petition Request: List as endangered
Petitioner: Randy Donald Webb
Institute for Wildlife Protection
USFWS Determination: Insufficient funds to initiate 90-day finding until FY 2003

Joel Flory was hired to fill the CCES position. The CCES specialist is responsible for developing, implementing, and monitoring community-based conservation extension program that will facilitate the creation of local working groups and the development of plans and agreements intended to benefit sage-grouse (Greater and Gunnison), private landowners, and local Utah communities.

This Community-based Conservation Extension Specialist (CCES) currently works full-time on sage-grouse conservation planning issues. Based on the SWOG experience, the cooperators believe the CCES will be perceived as a neutral party, not representing any specific government agency or mandate, but working for the good of the species and for those who live and work within the affected communities.

The cooperators believe implementation of conservation plans and agreements will make listing of these species as threatened or endangered unnecessary, assist in recovery if the species are listed, and provide affected individuals and local communities with increased ownership of the conservation planning process and incentives to assist them in conserving these species while meeting their local, social, and economic objectives.

Scope of Work

The CCES specialist had begun to develop a template to guide preparation of sage-grouse conservation plans and agreements in various geographic areas of Utah. This work is still ongoing. The conservation plans and agreements developed under this template will identify and guide implementation of management strategies that hopefully will result in improving habitat quality for sage-grouse and improved overall habitat conditions. Each conservation plan and agreement will contain information on the historic and current status of local sage-grouse populations and habitats, issues and concerns for local populations and habitats and management strategies, schedules and agreements to implement management strategies. Currently the best example of this template in action is the San Juan County Gunnison Sage-Grouse Conservation Plan. This plan is currently being updated. Upon completion of the update (January 2003), the plan template will be used to develop plans for other local working groups.

During the first reporting year, the CCES specialist focused on establishing, facilitating, and maintaining local sage-grouse working groups in those areas of the state that demonstrated the greatest need and show the most promise for sage-grouse conservation. The local working groups are ultimately responsible for completing, implementing, and monitoring local conservation plans and agreements. The current draft Utah Sage-grouse Statewide Conservation Plan identifies 13 priority geographic areas throughout the state that will need local conservation plans and agreements.

Geographic area of programming

To date CCES program efforts have been initiated in Box Elder, Garfield, Kane, Iron, Rich, San Juan, Summit Counties, and the Blue and Diamond Mountains in the Uintah Basin. Additional efforts already underway that are supported by the CCES specialist include Parker Mountain in Wayne and Puite counties, Strawberry Valley in Wasatch County, and San Juan County. In

addition to these areas and counties, we have received requests to provide support in Beaver, Tooele, and Millard counties. The CCES specialist also is working to develop a Utah Prairie Dog Habitat Conservation Plan (HCP) for lands managed by Utah School and Institutional Trust Lands Administration (SITLA). Once completed, this HCP will enable SITLA to implement a Utah Prairie Dog Mitigation Bank. This HCP will be completed in February 2003.

Progress Reports

Under the cooperative agreement, the CCES specialist prepared and submitted quarterly progress reports of his activities. Copies of the progress reports submitted as of March 2002 can be found in Appendix A. This report covers the reporting period from April 2001 to July 2002. The last quarterly report is included in this document. In July, Joel Flory resigned the CCES position to move to Michigan. We are currently seeking a suitable candidate to fill this vacancy.

CCES Activity Summary by Local Working Group

1. Parker Mountain – Wayne and Puite County

The Parker Mountain Resource Area (PRA) is located in south central Utah in Garfield, Piute, and Wayne counties. The resource area encompasses 259,881 acres managed by the U.S. Forest Service (USFS), Bureau of Land Management (BLM), Utah School, SITLA, and private land owners. The predominant land use in the area is grazing by domestic livestock.

The PRA is home to Greater sage-grouse and Utah prairie dogs (*Cynomys parvidens).* The Utah prairie dog is currently listed as a threatened species by the U.S. Fish and Wildlife Service. Sage-grouse populations on the Parker were originally estimated to be as high 9,200 birds in 1935-1936 at a period when livestock numbers were also higher than contemporary stocking densities. By 1969, populations had declined to an estimated 3,000 birds.

The declines in sage-grouse observed on the Parker Mountains are happening all across the west. However unlike other areas in the west, the sagebrush habitat on the Parker has escaped many of the development pressures and continues to be one of the few areas remaining in Utah with relatively large numbers of sage-grouse. In response to these declines, the ranchers who live and work on the Parker Mountains formed a unique partnership with public resources managers, the Parker Mountain Adaptive Resource Management Working Group (PARM).

PARM includes state and federal wildlife and land management agencies, Utah State University Extension Service, and the Jack H. Berryman Institute. The partnership is collectively working to reverse the declines, the recovery of Utah prairie dog populations in the area, and benefit the local community.

PARM is a public and private partnership that has been formed to implement management experiments to identify and address local community concerns and work toward achieving the goal of providing multiple benefits for all resource users and wildlife inhabiting the area. The immediate objective of PARM is to restore sage-grouse populations. PARM partners have implemented a long determine management plan to monitor sage-grouse populations, enhance

rangeland habitat conditions, and evaluate the effects of experimental management actions on sage-grouse habitat and populations. PARM is co-chaired by Gary Hallows and Andy Taft of the Parker Mountain Grazing Association.

PARM discovered that a major problem was that the sagebrush communities were all mature age classes with virtually no herbaceous understory. A mixture of different age classes and a diversity of grasses and forbs are essential for quality sage-grouse habitat. In response to these findings the partners treated a 5,000 acre experimental pasture in October 2001 using the Dixie harrow and a Spike chemical treatment to reduce sagebrush canopy coverage in to hopes of increasing vegetation diversity. Based on the findings of these experiments, additional treatments will be conducted over the next 10 years until the entire Mountain has been treated. Partners also will investigate using fire and prescribed grazing by livestock to maintain the treated areas in conditions suitable for sage-grouse, Utah prairie dogs, livestock and other wildlife. Joel Flory and Renee Chi are USU graduate students who are working on this project. They are supervised by Terry A. Messmer, USU Extension wildlife specialist. Parker Mountain has been recognized as an EnLibra project by the Western Governor's Association.

While serving as the CCES specialist, Joel Flory prepared and submitted a project proposal to the Intermountain-West Joint Venture. This proposal requested $36,000 to conduct habitat improvements projects and develop additional water sources on Parker Mountain. The proposal was funded and work has begun on the projects (Appendix B).

2. San Juan County Gunnison Sage-grouse Working

The San Juan County Gunnison Sage-grouse Working Group (SWOG) was formed in 1996. SWOG has developed a conservation plan that is currently being implemented by state and federal wildlife resource agencies, private landowners, and local governments to benefit sage-grouse populations in the county. Implementation of the conservation plan will facilitate local ownership in future management and land-use decisions, respect private property rights, and embrace community economic, cultural, and social values. The plan identifies conservation strategies that have been and will continue to be implemented by private and public partners in San Juan County to restore Gunnison Sage-grouse habitats and populations.

SWOG recognizes that most of the Gunnison Sage-grouse in the county depend heavily on private lands for habitat. Thus, the working group is committed to conserving and enhancing Gunnison sage-grouse populations that occur on privately-owned land in the county and contribute to the economic viability of farms, ranches, and the local community. A major component in this process was SWOG's request of the Natural Resource Conservation Service to designate the county a priority conservation area under the Conservation Reserve Program (CRP). This designation enabled landowners to enroll an additional 19,000 acres in the CRP. The UDWR subsequently provided the seed mixture to restore sage-grouse habitat on these acres.

Central to this conservation planning effort is the involvement and cooperation of local landowners, citizens, community leaders, and resource agencies. SWOG agreed to work collectively to implement appropriate management actions and activities that represent the

interests of all stakeholders. The plan establishes a framework for coordinated management and community-based grass-root support for the conservation of the species.

To guide implementation of management actions described by SWOG, new information is needed regarding sage-grouse distribution, seasonal habitat use and conditions, and factors that affect localized populations. SWOG partners currently are supporting research being conducted by Sarah Swanson and Sharon Ward, a graduate student, who is being advised by Terry A. Messmer, USU Extension Wildlife Specialist.

3. Strawberry Valley

This working group is located in Wasatch County. It currently consists of public resource managers and biologists and researchers from Brigham Young University. A major emphasis of the group has been trying to identify why sage-grouse populations around the reservoir are continuing to decline even though the area exhibits some of the best sage-grouse habitat in Utah. Research results supported the belief that high predation by red fox is contributing to the decline. USDA Wildlife Services has been contracted to implement a predator control program. The increased human activity associated with recreation and fishing may also have caused an increase in the raven population further reducing productivity and survival of this population. Project partners also are interested in transplanting birds from Parker Mountain to the area in an attempt to rebuild the population.

This area has not been grazed by domestic livestock in over 12 years. As such it may constitute an important experimental site for an evaluation of the effect of livestock grazing on sage-grouse.

On April 8, 2002, we met with the Wasatch County Commissioners to discuss community-based conservation efforts. The meeting was arranged by Steve Cox, USU Extension county agent. The commissioners had previously expressed concerns about the effort in Wasatch County. During the course of this meeting it became readily apparent that public wildlife managers had not maintained adequate communications with the county commissioners or private landowners. They remain suspicious of the motives of the managers involved in the Strawberry Valley effort.

We presented the background for the community-based conservation effort. The commissioners asked a number of questions. After the meeting, they expressed support for implementing a community-based conservation effort in the county. They instructed Steve Cox to work with us to organize an informational meeting. No date has been set for this meeting. This local working group will need to incorporate an already existing resource advisory group known as "The Friends of Strawberry Valley." This group has been very active in promoting resolution of resource conflicts including fisheries, recreational and water use.

The sage-grouse population in Strawberry Valley is considered to be migratory. The birds leave the valley when snowfall necessitates and winter as far east as Fruitland in Duchesne County. Management of a migratory population is more difficult and will require increased coordination to ensure seasonal use areas are protected. Increased awareness of sage-grouse biology and

importance of the various seasonal requirements helps to increase public participation and will minimize the risk of negative habitat management practices, poaching, harassment, etc.

4. Beaver and Millard Counties

We have been contacted by Mark Nelson, Beaver County Extension Agent and Becky Bonebrake, BLM biologist out of Cedar City, Utah concerning sage-grouse and grazing issues in the two counties. Apparently, the BLM does not have a good relationship with local landowners. Landowners who believe they are doing a good job of maintaining their allotments are upset that the BLM fails to recognize their efforts. Becky Bonebrake acknowledges that more cooperation is needed and has sought our assistance in developing a local working group. She has completed processing a contract that would provide up to $6,000 a year through 2006 to initiate a community-based conservation process in the two counties.

5. Rich County

On March 14, 2002, we met with the Rich County Soil Conservation District to discuss community-based conservation and sage-grouse. Tim Julander, Natural Resource Conservation Service District Conservationist, extended the invitation. Scott Williams attended the meeting representing the Rich County USU Extension Office. We presented a brief program about the efforts going on in other parts of Utah. The Board discussed the need for developing an effort in Rich County. The Board is interested in holding an informational meeting to bring the issue to the public. This work is being coordinated with Scott Pratt. Scott has been hired by USU Extension to facilitate a Coordinated Resource Management Process (CRMP) in Rich County to help ranchers address legal issues related to grazing permit renewals.

6. Tooele County

Historically sage-grouse were found throughout much of Tooele County. Currently, however, several leks have been abandoned and the population has declined dramatically. In March, 2002, we were contacted by Matt Palmer, the USU Extension Agent concerning conflicts that exist in the county regarding sage-grouse, the UDWR, and private landowners. Private landowners in the county are concerned about the UDWR's stance on sage-grouse management and its impact on private land management and federal grazing allotment permittees. We met with Matt and 12 livestock permittees for a dialogue on current working group efforts in Utah. In addition we met with U.S. Forest Service (USFS) range specialists from the Spanish Fork Resource District to identify their interest in participating in a local working group.

There is a need for more frequent contact and development of a sage-grouse working group in the area. There currently is a CRMP that has been in place for several years. Although, this group has focused on resource issues across the watershed, sage-grouse management issues have not been fully addressed. Landowners disagree with the USFS's decision to treat the Mormon cricket infestation at the levels they have chosen. The feeling is that sage-grouse lek locations are impeding efforts to improve rangeland health and eliminate an epidemic of Mormon crickets. Increased participation from the CCES could assist the CRMP resolve some of these issues and enhance sage-grouse conservation efforts.

Additionally, there are several allotments that are in poor range health (late seral stage sagebrush habitats) probably due to continued livestock grazing and fire suppression activities. A more diverse age structure of sagebrush classes would be very desirable for sage-grouse in this area. The reason for not approving any sagebrush treatment in this area is a concern over sage-grouse seasonal use and the need for conservation of critical winter range. However, conservation of winter range may do nothing to provide for adequate nesting and brood-rearing habitat.

The Vernon Welfare farm of the LDS church has purchased a Lawson Aerator to treat sagebrush and increase the forage availability on its rangelands. Coordination with the farm will help to ensure that treatments are not only beneficial to the landowner, but at a minimum will not be detrimental to sage-grouse populations in the area, and at best may enhance the rangeland quality and benefit the species.

7. Color County – Garfield and Kane County

The initial meeting of this group was held in August, 2001. The working group consists of primarily Garfield and Kane Counties and includes 3 major populations of sage-grouse in John's Valley, Panguitch Valley, and the Alton/Sink Valley. There is strong interest from federal and state agency personnel and the local community for increased conservation efforts.

Currently, the Grand Staircase Escalante National Monument (GSENM) is working with the UDWR and BLM-Kanab Field Office to determine the status of the Alton/Sink Valley sage-grouse. The majority of the Sink Valley area is privately owned, making it a high priority area to avoid loss of land due to poor range management or potential development. We are currently attempting to radio-collar sage-grouse in the area to determine seasonal use areas and identify areas most critical for protection of this population. This population is the southernmost extension of sage-grouse in Utah.

Private landowners in the area are attempting habitat improvement projects already and increased participation will help ensure that these projects do the most for conservation of the birds and continued land use. Contact has been made with the landowner of the Sink Valley lek and habitat improvement projects will be underway early this summer to remove encroaching Pinyon-Juniper (PJ) and establish an exclosure around adjacent springs which have bird use during the breeding, nesting, brood-rearing and some late summer use. This exlosure will improve vegetative cover around the spring and connect adjacent sagebrush stands to improve the existing habitat. The removal of PJ may help reestablish degraded sage-grouse habitat within 1 mile of the lek.

Due to the size of this area and the number of ongoing projects, increased involvement from the CCES will help ensure the greatest benefits to sage-grouse and the various other resource users.

8. Uintah Basin – Uintah County

On October 31, 2001, we met with representatives from several federal and state agencies to discuss the status of sage-grouse data and management in the Uintah Basin. This group was

primarily interested in compiling all existing sage-grouse data for the area to coordinate management strategies. An introduction to ongoing working group efforts in Utah was provided and the group felt that this would be a good direction to take.

Subsequent to this meeting, the USFS initiated a research project in conjunction with the UDWR to look at a declining, isolated, sage-grouse population on Anthro Mountain in Duchesne County. This population is limited to a very small area and will be subjected to increased oil and gas exploration in the next 2 years.

In addition to this project, efforts to establish a good working relationship with the Ute tribe are ongoing. The Ute Tribe presumably has good and substantial information on sage-grouse abundance and distribution on tribal lands. However, due to previous conflicts with federal land management and state agencies reciprocal distribution of data is lacking. Meetings between the CCES and the Ute Tribe public relations specialist have occurred to determine the current level of interest from the tribe in sage-grouse conservation efforts. Video production is underway to create an educational video that addresses sage-grouse conservation concerns and the cultural significance of sage-grouse to the Ute Tribe. Continued contact and cooperation with the tribe will help in managing sage-grouse in the Uintah Basin.

9. Box Elder County

The Box Elder working group initially met on August 30, 2001. The group has met several times since. The group has strong support from local legislative representatives, county commissioners, and private landowners. A draft MOU between federal and state agencies and livestock associations was addressed at a recent meeting and is currently being rewritten to more accurately address the mission of the group.

Efforts have begun to establish a more accurate baseline of the current population in western Box Elder County and determine the current and future status of range condition throughout the area. There is strong support for efforts to determine impacts on sage-grouse populations. This year the UDWR provided increased manpower to determine the status of historic leks and attempt to locate new leks in the area. A questionnaire has been drafted that will be mailed to all private landowners in the area to gain new information on seasonal use areas and determine the existence of other leks.

Recommendations have also included increased monitoring of hunting pressure and possible reductions in areas open to harvest or in number of birds to be taken. Increased landowner contact in this primarily privately owned area will be necessary to accomplish conservation efforts.

10. SITLA Utah Prairie Dog (UPD) Mitigation Bank

In support of the PARM agreement, which currently addresses sage-grouse management in coordination with the Awapa Plateau recovery area for the federally listed Utah prairie dog, work has continued on the development of a mitigation bank for SITLA. Originally, efforts were

focused on coordination to ensure that habitat treatments to improve UPD populations would not have detrimental effects on sage-grouse. However, currently the aim is to create an economic incentive to private landowners, currently SITLA, to maintain and/or enhance habitat for wildlife species.

This HCP will allow for continued private land development while helping to reach recovery goals for a threatened species. This type of incentive program for private landowners to actively manage for wildlife species, especially sensitive or listed species will create increased cooperation between agency personnel and private landowners and will require substantial time to coordinate and develop beneficial conservation plans.

General Needs Assessment Summary

Because sage-grouse occupy diverse landscapes each exhibiting different land ownership patterns and issues each of the 13 priority conservation areas identified by the UDWR must be viewed as being unique. The success of each working groups rests on the ability of the facilitator to understand and incorporate this uniqueness in the community-based conservation process. Achieving this understanding requires increased coordination and contact with local leadership and group members.

Although the published literature contains good information on sage-grouse management, this information may not be directly applicable to certain areas because of climatic variations and differences in vegetation. In addition, land uses are extremely variable across these areas and often require site-specific management information to address population declines and socio-economic needs. In many areas our ability to improve management of sage-grouse populations is hampered by the fact that little if any historic sage-grouse information exists. Although historical lek counts may provide information about overall population trends, they often do not provide a true picture of the population status. Consequently, we have found that the best way to determine use areas to target working management efforts often requires the use of radio-telemetry. In some areas where we have tried to radio-collar sage-grouse to initiate these efforts, we have been hampered because this habitat use information was lacking.

Thus an important component of any community-based conservation program is adequate scoping to identify all possible management, social, and political issues in the working group. Implementation of projects such as specialized grazing systems, sagebrush management, predator control, and pinyon/juniper restoration will be a necessity in some areas. To accomplish these tasks there is a great need for additional funding for fencing, chemicals, equipment, manpower, and technical assistance. Assistance is needed to support of working groups to write grants, coordinate on-the-ground management actions, and maintain contact with working groups on a timely basis.

Because of the complexity and diversity of these issues, working groups must consist of participants representing a wide diverse array of interests and backgrounds. Although federal and state biologists must be part of this process, we recommend they not assume direct leadership positions, but rather lead from behind.

Increased public interest in sage-grouse viewing opportunities may benefit current conservation. However, if these visitations are not properly managed, they can cause lek disturbances that decrease the breeding success of populations. Education regarding proper lek-viewing etiquette and establishment of viewing protocol may help to alleviate some of this. We recommend that the CCES specialist work closely with local UDWR working group contacts to develop public viewing guidelines species for each area.

Some working groups have expressed an interest in translocation of sage-grouse from areas of stable or increasing populations to area were populations are declining. We recommend that prior to initiating such actions, the working groups in the affected areas both be supportive of the idea. The key to the success of local working groups is ownership in the process. If these decisions are being made or actions being taken by a management authority without consulting the working groups, this will destroy what we believe to be the most important component of the CCES process: **local ownership in management decisions that affect their community.**

Sage-grouse hunting pressures have recently been evaluated and concern has arisen over harvest levels in excess of 5-10%. We believe maintaining harvest levels below this level will serve to reduce concerns of working group participants regarding this issue. We also recommend that if working groups feel strongly that hunting may be having a negative effect on local populations, actions be implemented to determine if there is an effect.

Ultimately, single species management will have to give way to conservation or restoration of healthy rangeland systems to provide a quality community-based conservation program. Recognition that sage-grouse management does not occur in a vacuum and management of other federally listed species, sensitive species, and species of interest to consumptive and non-consumptive users alike will require continued coordination and community involvement.

Currently, our ability to organize, facilitate, and administer community-based conservation efforts in Utah has been compromised by the growing demand. For these programs to truly work, local ownership in the decision-making process is essential. Learning by doing must remain a primary objective. In addition the conservation efforts must identify and implement activities that while beneficial to sage-grouse also generate or sustain economic returns to the local communities. If conservation is to work, it must be good for both grouse and community. We believe the current community-based conservation effort must be enhanced if these objectives are to be achieved.

Thus we propose that USU and the UDWR consider expanding the current CCES program be expanded to 2 specialists. One of the specialists would cover Northern Utah to include Rich, Cache, Box Elder, Tooele, Wasatch counties and the Basin. The second specialist would cover Cedar, Iron, Beaver, Sevier, Wayne, Puite, Kane, San Juan, Grand, Carbon, and Emory and Garfield Counties.

APPENDIX A. CCES Quarterly Reports

1. March- June 2001

Background

The Cooperative Agreement between Utah State University (USU) and the Utah Division of Wildlife Resources (UDWR) that established the jointly funded position of Community-Based Conservation Extension Specialist (CCES) was signed on March 27, 2001. The two year agreement outlines activities that will be conducted by the CCES to address sage-grouse conservation issues. As part of the agreement, the CCES will submit quarterly and annual reports of activities and accomplishments. Joel Flory was hired to fill the position. The report covers the period of March to June 2001.

Local Working Groups (LWG)

CCES cooperators believe that the formation of the LWG's across the state of Utah is the first step in conservation planning for sage-grouse. To increase the efficiency, a standard process was agreed upon by which the groups would be formed. The first meeting is to be held with the County Extension agent, the local UDWR biologists, the CCES and the USU Wildlife Extension Specialist. This meeting is to identify all the local stakeholders that would be interested in or affected by sage-grouse issues. In addition, identification of land management agencies, conservation and recreational organizations, utility companies, and other interested publics were identified. After compiling this list, creation of a mailing list for each LWG occurs, and then letters are mailed for an initial informational meeting. For each new LWG, contact has been made with local legislators to make them aware of the intent of the conservation planning process and to keep them abreast of the progress. State and local politicians have endorsed the process and signed their names to the introductory letters. The informational meeting format will include a dinner with social interaction time, introduction to the process and purpose of the meeting. Presentations from the UDWR and USFWS will provide information on sage-grouse biology and status in Utah, the petitioning process and timelines, and the status of petitions already received by the USFWS. Following this portion of the meeting, ample time will be allowed for questions and answers. Additional input is welcomed from those present on local issues and sage-grouse observations. The group is then allowed to decide whether or not formation of a sage-grouse LWG is desired. Subsequent meetings will then be scheduled to begin identifying and refining the issues, coming up with a mission statement, and ultimately determining goals and objectives for each issue identified to be incorporated into a local Sage-grouse Conservation Plan.

South-Central Valleys LWG

The establishment of the South-central Valley's LWG was initiated in May. Meetings were held with the Garfield/Kane Co. Extension Agent, the local DWR biologist and local land management agencies to determine the participants that would need to be invited to the initial informational meetings and coordinate mailings. The mailing list is to be maintained by the CCES and provided to the Extension agent who will distribute the mailing. August 2nd was

selected for the initial meeting. This meeting will include informational presentations from the Utah Division of Wildlife Resources and the U.S. Fish and Wildlife Service and a question and answer session.

Box Elder County LWG

The establishment of the Box Elder LWG was initiated on June 18th. A meeting was held with the Box Elder Co. Extension agent, local DWR biologist, and land management agencies to identify interested stakeholders for the formation of the sage-grouse LWG. The mailing list will be maintained by the CCES and distributed to the Extension Agent in order to mail meeting invitations. The initial meeting will be held on August 30th and will include a dutch oven dinner and informational presentations from the UDWR and USFWS. Additional time will be available for question and answers.

San Juan County Gunnison Sage-grouse LWG (SWOG)

A LWG meeting was held prior to the field season to discuss the status of conservation easements, funding opportunities and the upcoming field season. A future LWG meeting will be held following the field season to discuss the findings and plan for future research and habitat projects.

Parker Mountain LWG (PARM)

In early April we held a PARM LWG meeting to discuss the results from the 2000 field season and plan for the upcoming year. Several projects were discussed including a NASA grant to evaluate forage production and utilization from remote imagery, the ongoing habitat improvement projects, and the ongoing research to evaluate the effects of habitat manipulations on sage-grouse habitat use.

Other Projects

In support of current sage-grouse research efforts, the CCES assisted in trapping activities in both San Juan County and on Parker Mountain. On Parker Mountain we were able to trap 19 females in 3 days.

Contacts have been made with several adjacent states to discuss the status of conservation planning efforts in those states. The major emphasis has been to collect and review conservation plans in order to come up with a template format for conservation plans in Utah that can be used in writing the 13 conservation plans in a quicker, uniform manner ensuring that all issues are addressed and discussed at LWG meetings. To date, seven conservation plans on sage and Columbian sharp-tailed grouse have been collected and reviewed from Colorado and one statewide plan from Nevada.

I began to develop an Access database that will include all interested parties and be the basis for mailing letters of invitation to those who wish to participate in the conservation planning process. The database currently contains PARM participants and those individuals and agencies

initially identified for the South-Central Valley and Box Elder County LWG's. This will be an ongoing process.

Meeting facilitation training has been informal to date. I've received training manuals from UDWR planning manager Dana Dolsen, and discussed strategies for effective facilitation. On his recommendation, I've read "The Interaction Method of Meeting Facilitation." Natural resource meeting facilitation training has not been available, but should be in the near future.

In support of the LWG effort, I've been gathering data on land ownership in Box Elder County, created flyers and posters for advertising of LWG meetings, and made contact with local newspapers/newsletters to distribute meeting notices. Collection of current and historic information for each area has been ongoing. GIS information has been organized for each of the LWG's to assist in future planning efforts at the local level.

Several field trips were taken to the PARM and South-central Valley area to advise the USFWS on potential Utah praire dog habitat improvement sites. Site-specific information was provided to address the potential impacts on sage-grouse habitat. Portions of the PARM study area are also proposed sites for a Utah prairie dog mitigation bank.

On June 4th-7th, I attended the Sage-grouse Habitat Restoration Symposium held in Boise, Idaho. There were two days of scientific papers presented on all aspects of restoring and enhancing sagebrush rangelands in addition to a two-day field trip to view the results of previous habitat manipulations and view sage-grouse habitat conditions. The information obtained at the symposium will be used to plan sage-grouse habitat restoration efforts across Utah by the LWG's.

2. July 2001-September 2001

Background

The Cooperative Agreement between Utah State University (USU) and the Utah Division of Wildlife Resources (UDWR) that established the jointly funded position of Community-Based Conservation Extension Specialist (CCES) was signed on March 27, 2001. The two year agreement outlines activities that will be conducted by the CCES to address sage-grouse conservation issues. As part of the agreement, the CCES will submit quarterly and an annual report of activities and accomplishments. Joel Flory was hired to fill the position. The report covers the period of March to June 2001.

Local Working Groups

South-Central Valley LWG

On August 2nd we held an informational meeting in regards to sage-grouse conservation planning at which Dean Mitchell presented information on sage-grouse in Utah and general biology. Laura Romin (USFWS) presented information on Candidate Conservation Agreements with

Assurances and Safe Harbor in addition to the timelines for the listing process and the ramifications of federal listing under the Endangered Species Act. Representatives from the PARM group also attended to offer their endorsement. The group was in favor of officially forming a LWG.

In September another meeting was held to discuss the planning effort. This meeting was coordinated with a livestock producer's field trip and we identified and discussed several of the issues that are considered priorities by the agricultural industry in Garfield and Kane Co.

Box Elder County LWG

On August 30th, we held an informational meeting in Tremonton. More than 30 individuals representing agency personnel, livestock producers, and concerned publics attended the meeting. The UDWR and USFWS presented information on sage-grouse biology and the status of sage-grouse petitions. The group was in favor of officially forming a LWG and will be meeting again on November 29th.

Strawberry Valley LWG

In preparation for the formal formation of the Strawberry Valley LWG, I attended the Friends of Strawberry Valley Meeting. At this meeting we discussed the integration of the LWG into the already existing infrastructure of the organization that is currently concerned with all resource issues and activities that take place in the valley. The group provided their mailing list as a start in compiling a list of interested stakeholders for the sage-grouse LWG.

Parker Mountain (PARM)

On August 8, 2001, we conducted a field trip on Parker Mountain to identify possible sites for a Utah prairie dog mitigation bank. Two sites were selected as possible banks. These were Flossie Knoll and the Tanks areas. Terry Messmer and Joel Flory prepared a draft mamangement plan for the operation and management of a bank on each site. This plan was incorporated into a draft Utah prairie dog mitigation banking agreement that was prepared by Environmental Defense.

San Juan County Gunnison SWOG

Jim Keyes, Terry Messmer, and Sarah Lupis met with the San Juan County Commissioners on August 24, 2001 to update them on the status of the Gunnison sage-grouse conservation planning effort. The Commissioners expressed their support of the effort and asked that we continue to provide them updates.

The SWOG technical committee met in the afternoon to discuss habitat management plans. The UDWR has begun to develop projects on the Adam's easement property. Sarah Lupis reported that the Gunnison sage-grouse she was monitoring spend most of their time in established Conservation Reserve Program (CRP) fields. SWOG will meet in early January with local landowners to brief review past work and update them on activities planned for 2002.

Other Meetings/Symposia

At the 8th Annual Conference of The Wildlife Society, I presented a paper entitled "Utah's Sage-grouse Working Groups: Putting Our Communities Back Into Conservation." This paper was presented with Sarah Lupis at the Community-based Conservation Symposium.

Other Projects

Mailing lists have been developed for all the LWG's in Microsoft Access database. There are currently over 300 individuals in the database. The mailing lists are organized in several tiers in order to ensure that DWR employees from the Salt Lake Office will receive all of the LWG mailings, RAC chairpersons and regional DWR employees will receive all the mailings appropriate to their region and individuals will receive mailings only for their closest LWG. Creation of the Rich County and Uintah Basin mailing lists is in process.

In cooperation with Ron Torgerson, Utah State and Institutional Trustlands Administration (SITLA), Tom Jarmin, Natural Resource Conservation Service (NRCS), and Terry Messmer (USU), I prepared a proposal for sage-grouse habitat restoration project on Parker Mountain that was submitted to Intermountain West Joint Venture's small grants. This proposal addressed sage-grouse habitat conditions and proposed using the Lawson Pasture Aerator to improve nesting and brood-rearing habitat on 1,000 acres. The project was approved at the regional level and will provide $36,000 in funding to carry out the work

I have advised the USFWS on several potential Utah prairie dog mitigation bank sites and the potential impacts of the habitat manipulations on local sage-grouse populations.

We met with Scott Walker at the Great Basin Experimental Station regarding sage-grouse habitat improvement operations and seed mixtures including the mechanical, chemical, and fire initiated manipulation of sagebrush rangelands. This information will be vital in planning effective sagebrush habitat improvement projects across Utah.

Presented information on the status of sage-grouse in Utah and the CCES efforts to the Annual meeting of the Utah Cattleman's Association meeting in Price on July 17th. At this meeting, we also introduced the group to the future formation of LWG's across the state.

Several trips to the South-Central Valley's LWG area were taken to address proposed sagebrush habitat manipulations in the Upper and Lower Bear Valley area as well as Dog Valley. An additional field trip with the BLM and UDWR occurred to discuss BLM grazing allotment renewals and their effect on sage-grouse habitat.

To increase local community buy in and excitement about sage-grouse conservation, sage-grouse shirts have been designed and will be available on the internet for those interested in increasing recognition and awareness.

Meeting invitation letters and meeting summaries have been sent to the UDWR for uploading to the UDWR Upland Game web page.

Two field trips to Strawberry Valley were attended with the USFS Biologist and the BYU graduate students that are currently working on sage-grouse issues in the valley. We evaluated some recent habitat manipulations including a prescribed burn, spike treatment and Dixie-harrow treatment that had occurred in the valley. Participated in a meeting with Wildlife Services, BYU, and the USFS to discuss past predator control activities and the response of the population. We decided on a future direction for predator management activities in the valley.

Future projects

Formation of LWG's in Rich County and in the Uintah Basin will occur during the next quarter. There will be follow-up meetings for Box Elder and South-central Valleys groups. PARM and SWOG will also be meeting in the next quarter to review the most recent research findings and make plans for future efforts. Strawberry Valley will have the first informational meeting for sage-grouse conservation planning.

Work will continue on the Conservation Plan template to be used by the 13 sage-grouse management units in the planning process. This template should be available for review in the next quarter.

3. October 2001-December 2001

Background

The Cooperative Agreement between Utah State University (USU) and the Utah Division of Wildlife Resources (UDWR) that established the jointly funded position of Community-Based Conservation Extension Specialist (CCES) was signed on March 27, 2001. The two year agreement outlines activities that will be conducted by the CCES to address sage-grouse conservation issues. As part of the agreement, the CCES will submit quarterly and an annual report of activities and accomplishments. Joel Flory was hired to fill the position. The report covers the period of October to December, 2001.

10/31 South-slope Uinta Basin Meeting Vernal.
UDWR,BLM, etc.

11/6 Strawberry Valley Population estimation meeting
11/14 SRO Cedar City, DWR Research meeting with BLM Bob Steger, UDWR, Norm, etc.

11/15 Color Country LWG Meeting (slide show presentation with Harry Barber, BLM).
Development of basic sage-grouse slideshow.

11/29 Box Elder Sage-grouse LWG Meeting,
12/7 SV meeting with Steve Cox
12/7 FS meeting with Jeff Waters
12/11 To Loa, telemetry/

12/12 PARM Meeting at 1000
12/17 UPD HCP Meeting at SITLA

4. January 2002- April 2002

Background

The Cooperative Agreement between Utah State University (USU) and the Utah Division of Wildlife Resources (UDWR) that established the jointly funded position of Community-Based Conservation Extension Specialist (CCES) was signed on March 27, 2001. The two year agreement outlines activities that will be conducted by the CCES to address sage-grouse conservation issues. As part of the agreement, the CCES will submit quarterly and an annual report of activities and accomplishments. Joel Flory was hired to fill the position. The report covers the period of January to March, 2001.

Acquisition of trapping supplies for Anthro Mtn. and Alton/Sink Valley sage-grouse projects
Radio transmitter research, bidding, purchase
USU-Vernal Seminar ??April
Undergraduate seminar
HCP for ES training Shepherdstown WV March 11-15

Landowner contacts for sink valley trapping
Sink Valley landowner checks
1/7 Color country slideshow meeting with Harry Escalante
WAFWA Meeting same day Torrey
1/8 Wafwa meeting Torrey
BE Meeting cancelled 1/9
1/15 Antrho meeting Roosevelt
1/17 CC LWG Meeting
1/25 sage-grouse transplant meeting Heber
1/31 Roosevelt Sage-grouse meeting cancelled
1/31 Box Elder LWG Meeting

2/7 SWOG Meeting
2/7 SITLA/EDF HCP Meeting by phone from Monticello
2/15 Anthro sage-grouse meeting
2/22 NRO Sage-grouse meeting with dwr, bBLM
2/26 WAFWA Planning meeting Torrey
2/27 PARM???
3/7 Sage-grouse meeting Tooel/Rush Valley
3/10-3/15 NCTC
3/21 Vernon, USFS, Meeting, San Juan trapping//cancelled
3/22 Alton/Sink Valley sage-grouse trapping

April-June

Meet with Larry Cesspooch
Video shoot with Larry
Parker Mtn. Sage-grouse photo shoot
4/3 Trapping Anthro
4/4 USU Seminar, trap
4/10 WAFWA Meeting, trapping Parker, Alton
4/25 RIT Team meeting, Cedar City, trap Antrho
4/26 meet with Larry
4/29 TWS Meeting Springville
4/30 PARM Meeting Loa, for Grant/WHIP,
5/1 Meet with Howie, SLC
5/2 Meet with Burt Pugh
5/3 Video shoot on Diamond Mountain

Lek viewing opportunities coordinated through Price office
Transplants from Parker to Price

APPENDIX B. Project Proposals Prepared and Submitted

Parker Mountain Sagebrush-Steppe Ecosystem Restoration Project

Legal: T28S, R1W, Sec.34,35,36: T29S, R1W, Sec.1,2,3,10,11,12
State: Utah
County: Wayne
Wetland Focus Area: n/a
Bird Conservation Region: Southern Rockies-Colorado Plateau
Grantee: Parker Mountain Adaptive Resource Management Group (PARM)
Grantee Address: Wayne County Extension, 18 S Main, Box 160, Loa, UT 84747
Grantee Phone: (435) 836-2662 e-mail: verlb@ext.usu.edu
Date Submitted: July 24, 2001
Funding Amount Requested: $36,000

Project Description:

The Parker Mountain Adaptive Resource Management Group (PARM) was started in 1998 to address sage-grouse declines on Parker Mountain. PARM was initiated through a cooperative agreement including the BLM-Richfield District, USFS-Dixie and Fishlake National Forest, Utah School and Institutional Trust Lands Administration (SITLA), USDA-Wildlife Services, Natural Resource Conservation Service, Parker Mountain Grazing Association, Utah State University-College of Natural Resources, USU-Berryman Institute, Wayne County Extension and the Utah Division of Wildlife Resources. The value of this partnership is in the fact that significant contributions from the local community have occurred in monetary donations, meeting participation and overall community support. This buy-in from the local community should serve to make the work in this area long lasting.

Sage-grouse populations have been declining in the western United States since the early 1900's and recognition of these declines prompted research activities dating back to the 1930's. Parker Mountain is located in south-central Utah and geographically represents the Awapa plateau and the northern portion of the Aquarius plateau. The project area encompasses some 200,000 acres of continuous sagebrush habitats and supports one of the largest populations remaining in Utah. Sage-grouse research conducted in the early 1970's and again in 1998 to present has indicated that the area supports a substantial component of sagebrush, but in many areas is in late seral stage sagebrush communities with a degraded understory due to continued domestic and wild animal grazing and removal of disturbances, (i.e. fire). The mountain big sagebrush communities typically had a fire return interval of around 20 years and this disturbance would have allowed the herbaceous component to recover and created a mosaic of sparser, younger

sagebrush patches intermixed with the older age stands across the landscape. Vegetation measurements conducted across the mountain indicate that canopy coverage far exceeds the recommended guidelines and consistently occurs at levels in excess of 40% in big sagebrush draws. The sage-grouse management guidelines recommend 10-25% canopy coverage for sagebrush for nesting and brood-rearing habitats and greater than 15-25% canopy coverage for forbs and grasses. Sage-grouse production can be enhanced through improved nest success and brood survival. The proposed treatment area is within 5 miles of the second largest lek on Parker Mountain. Currently sage-grouse travel in excess of 15 miles to find suitable early and late brood-rearing habitat. This pasture is at the same elevation as currently used brood habitats but grouse use is minimal. The potential for this pasture to support sage-grouse broods is present, but a decrease in sagebrush canopy coverage in the moister draws is necessary. The accompanying increase in herbaceous understory will provide improved nesting and brood-rearing habitat adjacent to a major lek and decrease the distance necessary for seasonal migration.

Goal:

Improve the overall ecological health of 1,000 acres of sagebrush habitat on that portion of Parker Mountain known as the Pine Peak Pasture for the benefit of sage-grouse.

Objectives:

1. Bring the sagebrush habitat within the project area into the recommended guidelines for sage-grouse breeding habitat.

2. Create 3 fenced exclosures around existing reservoirs within the project area to create wet meadows and increase productivity of the habitat for sage-grouse during the early brood-rearing period.

This project will be conducted under the PARM plan and will be conducted on SITLA property. PARM will be responsible for the oversight of the project.

We will use a Lawson pasture aerator owned by the Utah DWR to treat 1,000 acres of big sagebrush (*Artemisia tridentata*) within the pasture boundaries. The treatment will take place in the late fall or early winter to ensure a good removal of mature sagebrush plants. When used outside of the active growing season sagebrush plants are more brittle, and if done when the ground is frozen and we can get a more controlled kill of mature plants. The aerator will be set at the appropriate height to remove the larger, more mature plants, but leave an adequate amount of live sagebrush plants to maintain sagebrush canopy coverage within the guidelines (10-25%). The treatment will take place within the big sage draws where canopy coverage of big sage has reached >40%. In these areas the soils are deeper and the potential to maintain succulent vegetation further into the fall is probable. The treated areas will make a mosaic within the drier black sage ridges and when viewed from the landscape level will provide a greater variety of seasonal ranges in closer proximity than currently exists. This treatment will take place within an area of 200,000 acres of sagebrush habitats varying from more xeric black sagebrush ridges, to big sagebrush draws and wet meadow remnants containing extensive silver sage. In the long

term we will treat more acreage to achieve a diversity of sagebrush habitats and seral stages across the area. The duration of the treatment benefits is difficult to predict due to the variable nature of precipitation and growing seasons on the project area. It can be estimated though that reduction in the sagebrush canopy coverage could be maintained in excess of 15 years with good grazing management. The release of many grass and forb species currently being out competed will serve to improve the herbaceous understory for at least that long.

In addition to mechanical treatments of sagebrush we will be working on the water impoundments within the pasture. The key to good grazing management is distribution and good distribution on the project area is hindered by water availability. Three water developments will be fenced at 1 acre upstream from the current impoundment to protect the area from excessive grazing from wild and domestic ungulates. Float valves and troughs will be installed to provide water for the domestic livestock and wild grazers. The fencing will provide protection from trampling and removal of herbaceous vegetation surrounding the development. The increased herbaceous vegetation will improve the water holding capacity of the soil, decrease runoff, and improve the overall water quality within the development. These localized areas of increased grasses, forbs, and insects will significantly improve the early brood-rearing habitat for sage-grouse. These fenced exclosures will also provide escape cover and travel corridors into the reservoirs that are currently lacking. The benefits of the exclosures will last at least 20 years and can be maintained easily with new fencing.

Evaluation Elements:

Sage-grouse production on the project area is currently below levels needed to maintain the existing population. The greatest benefit available through management is improvement of breeding habitat. Breeding habitat improvements that result in an increased grass and forb understory will improve pre-laying nutrition of nesting hens and provide greater nest concealment. Early brood habitat will be improved through an increasing abundance and diversity of forbs and the correlated diversity of insects. In the long term an improved herbaceous understory should improve the water holding capacity of the soil and ultimately raise the water table in localized areas, especially in and around the reservoir exclosures.

A mosaic of age classes and canopy coverages of sagebrush stands will benefit not only sage-grouse but also a number of other sagebrush obligate and shrubland species. Vesper and lark sparrows will benefit from a younger and sparser sagebrush habitat. Long-billed curlew and burrowing owl have been observed near the project area and both would benefit from a higher grass component. Improvements in the grass understory would increase nest success for vesper sparrows, long-billed curlew, sage thrashers, sage sparrows, and lark sparrows. The wet meadow areas that will be created around the developments will benefit long billed curlews as well.

Waterfowl production has been documented on several of the water reservoirs on and around the project area and increases in production and use of these areas would be expected with the increased herbaceous component, the heightened water table, and improved water quality that would come with construction of the exclosures.

Sage-grouse and sagebrush habitats have been identified as one of the most at-risk habitats. Recent petitions have been received for listing under the Endangered Species Act to list the Washington population of sage-grouse, and the Gunnison sage-grouse in southeastern Utah and in Colorado. Community-based conservation efforts like this may assist in improving or maintaining existing populations of these birds. Recently the Northwest chapter of the Society for Ecological Restoration held the first annual symposium on Sage-Grouse Habitat Restoration in Boise, Idaho, and several methods for improving and restoring sagebrush habitats were discussed and demonstrated. The urgency with which sage-grouse habitat restoration needs to be addressed cannot be underestimated.

Monitoring Plan

Vegetation transects will be established to determine both pre and post treatment habitat conditions. These transects will measured using the line-intercept for shrubs and Daubenmire frames for grasses and forbs. These transects will allow us to determine whether or not we have achieved our goal of increasing herbaceous vegetation production and diversity and to what degree the sagebrush canopy coverage was reduced. A technician hired through the Wayne County Extension office will conduct this range assessment. The transects will be read in June 2002 prior to the treatment and June 2003, 2004, 2005 after the treatment with funds provided by the PARM partners.

Monitoring of the water developments will consist of plots placed within the exclosure site to monitor recovery of the vegetation within the exclosure. Water quality will also be measured pre and post treatment.

Sage-grouse populations are monitored annually in the spring and summer by lek and brood counts. Any changes in sage-grouse attendance at breeding grounds will be picked up by the lek counts and production will be measured during the summer by conducting brood counts.

All applicable permits will be acquired and compliances met. The NRCS will conduct the NEPA evaluation and a consulting firm will be contracted to conduct the archaeological surveys

1. Partner Information (Names, Affiliation, Contributions, Partner Letters of Intent)

NAME	AFFILIATION	NON-FEDERAL CONTRIBUTION	FEDERAL CONTRIBUTION	
Wayne County Commission/Ext.	County	$5,000		
Utah State University Extension	Utah State University	$5,000		
College of Natural Resources - Jack Berryman Institute	Utah State University	$5,000		
Parker Mountain Grazers	Grazing Association	$3,000		
USDA Forest Service	Dixie National Forest		$5,000	
USDI Bureau of Land Management	Richfield Area Office		$5,000	
Utah Division of Wildlife Resources	State Agency	$10,000		
Natural Resources Conservation Service	USDA		$25,000	
State of Utah School & Institutional Trust Lands Administration	State Agency	$10,000		
USDI National Park Service	USDI		$3,000	
Utah Department of Natural Resources	State Agency	$24,000		
USDA Wildlife Services	USDA		$10,000	
USDI Fish & Wildlife Service	USDI		$12,000	
TOTALS $		$62,000	$60,000	$122,000